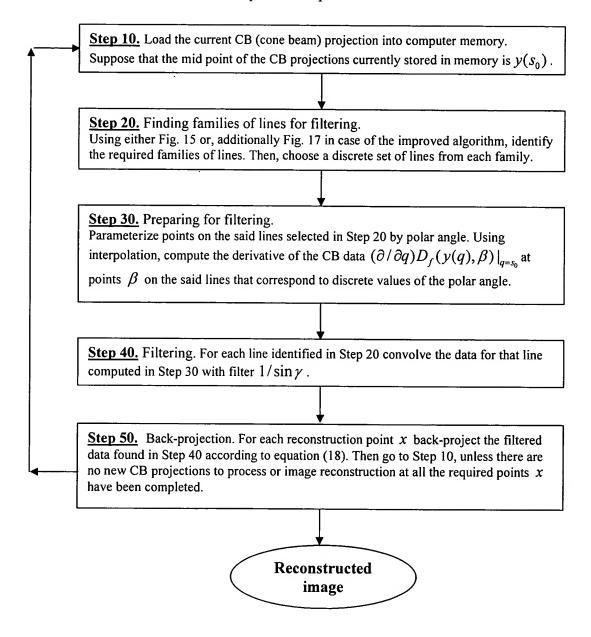


Overview of the basic process steps of the invention



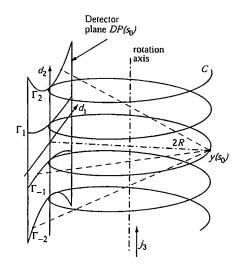


FIGURE 3

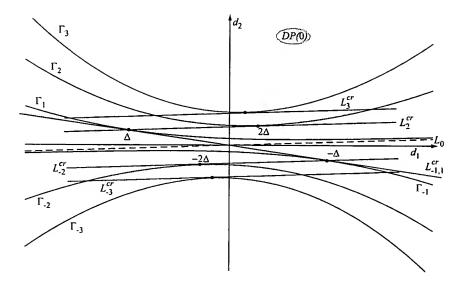
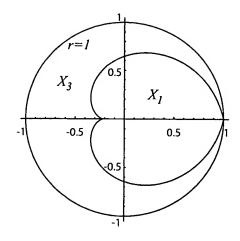


FIGURE 4



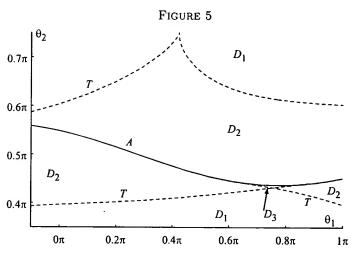


FIGURE 6

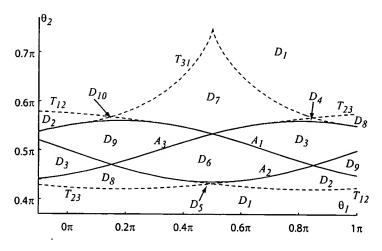


FIGURE 7

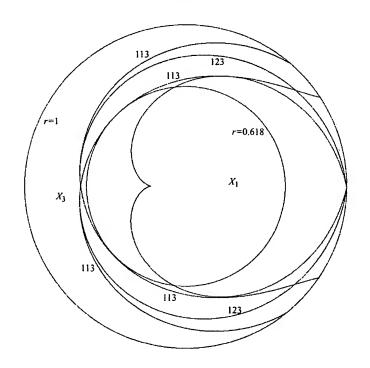
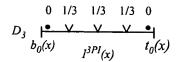


FIGURE 8



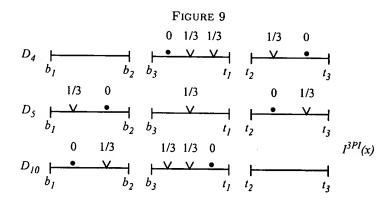


FIGURE 10

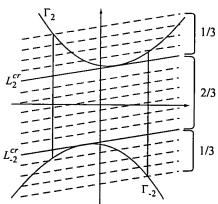


FIGURE 11

4

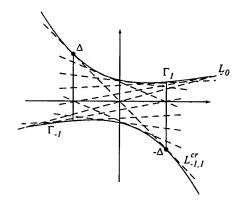


FIGURE 12

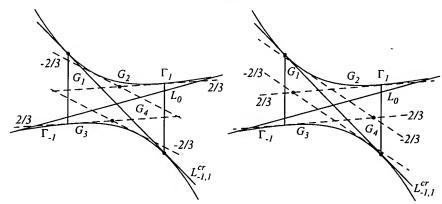


FIGURE 13

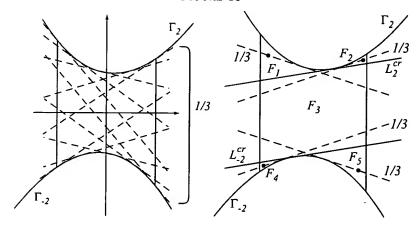


FIGURE 14

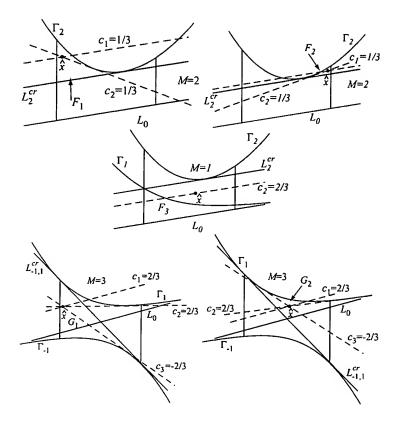


FIGURE 15

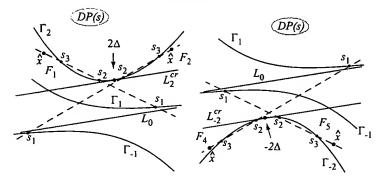


FIGURE 16

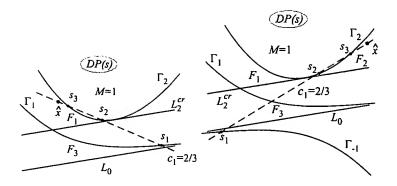


FIGURE 17

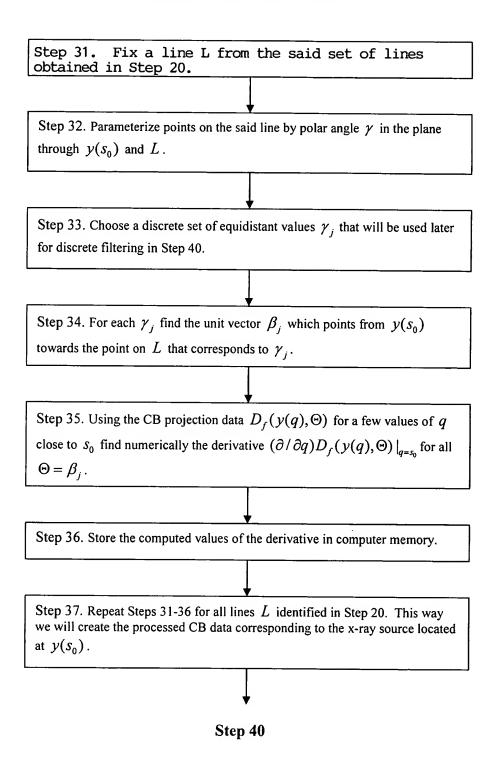
Step 20. Finding families of lines for filtering

Step 21. From the family of lines \mathcal{L}_0 choose an equidistant set of lines that are parallel to the spiral tangent and that cover the projection of the region of interest onto the detector plane located between Γ_2 and Γ_{-2} (see Fig. 11).

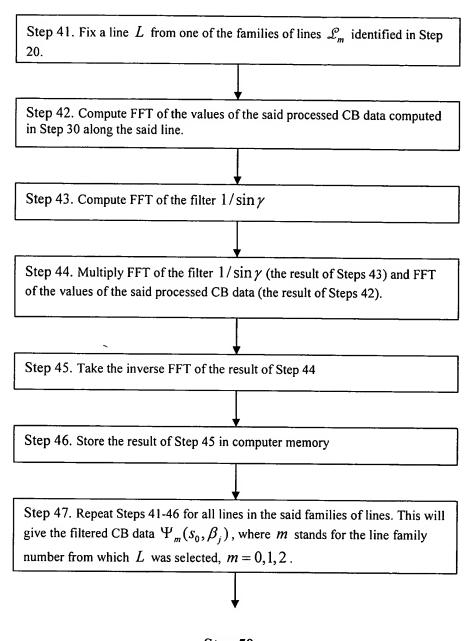
Step 22. From the family of lines \mathcal{L}_1 choose a discrete set of lines that are tangent to Γ_1 and Γ_{-1} (see Fig. 12). The extreme left point of tangency on Γ_1 should coincide with the point where the double tangent line $\mathcal{L}_{-1,1}^{cr}$ is tangent to Γ_1 . Similarly, the extreme right point of tangency on Γ_{-1} should coincide with the point where the double tangent line $\mathcal{L}_{-1,1}^{cr}$ is tangent to Γ_{-1} .

Step 23. From the family of lines \mathcal{L}_2 choose a discrete set of lines that are tangent to Γ_2 and Γ_{-2} (see Fig. 14, left panel). In both cases the points of tangency do not have to extend beyond the projection of the region of interest onto the detector plane. In case of the improved algorithm, instead of the lines tangent to Γ_2 and Γ_{-2} , we choose a discrete (say, equidistant) set of values for s_3 on the curves Γ_2 and Γ_{-2} and then determine the lines $L \in \mathcal{L}_2'$ by solving equations (21), (22). On both curves the points s_3 do not have to extend beyond the projection of the region of interest onto the detector plane.

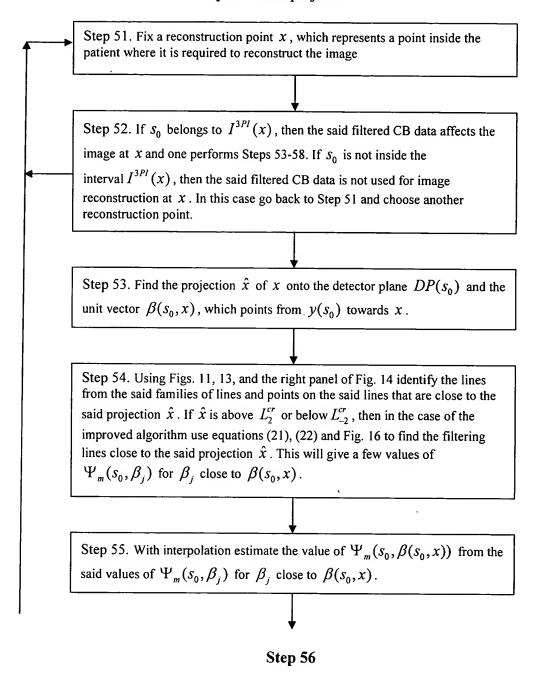
Step 30



Step 40. Filtering



Step 50



Step 50. Back-projection (continuation)

